Window to the Sun

SOLAR TERRESTRIAL PROBES/LIVING WITH A STAR

http://stp.gsfc.nasa.gov

http://lws.gsfc.nasa.gov

http://stargazers.gsfc.nasa.gov

INSIDE THIS ISSUE:

What is Informal Education?

The E/PO program sees significant areas of opportunity to reach and impact a wide range of people beyond the formal education setting. Partnerships with museums, (individually and in broader alliances), solar observing centers, amateur astronomy groups, exhibits, the stronger engagement of scientist and engineers, and new products and new venues for distributing these products will be a significant asset for the STP/LWS Program.

Family Night

Melvina Jones is an elementary school teacher at John Burrows Elementary School in the District of Columbia. She completed her undergraduate degree at Howard University and her Master's at Bowie University, formerly Bowie State. She joined the teaching profession as a result of her friendship with the daughter of teacher who told her she thought the teaching profession would be a good match for her talents. She was right.

Melvina came to the SUNBEAM program as a result of speaking with SUNBEAMS Coordinator, Sarah E. Brown, at a science fair at another school. Sarah told her about SUNBEAMS and she decided to apply and was accepted. In her position as science resources teacher she meets with the entire student body once a week for a 50-minute class. Students from all six grades interact with her weekly and she is able to instill in them a curiosity in the STEM subjects that are so important to this next generation of students.

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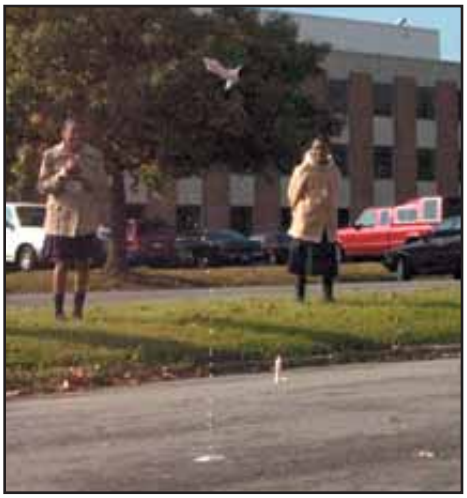
Family Night *continued from page 1*

This next generation of students hosted the John Burroughs Elementary Science Department Presents… NASA SUNBEAMS Family Night 2004. The event held the evening of December 9, 2004, was an opportunity for the students that had previously spent a week at GSFC to let their school and their families know what they had learned during their time here. Student Master of Ceremonies Mr. Devin Cash and Mistress of Ceremonies Desire' Marshall welcomed those in attendance and a wonderfully upbeat program began with segments on Mind Reader Cards using binary numbers, liquid nitrogen, The Red Corral House, The Calendar and the Moon and Alka Seltzer Rockets.

The program included photographic reflections of the students time spent at GSFC that Melvina presented on the new laptop computer she received as one of the teachers honored by Oprah Winfrey on her show. Teachers were asked to respond to the question, What Inspires You To Teach? Melvina was alerted to the query by her mentor and she responded to the question in 2000 words or less. She was selected along with an entire audience of educators. When they arrived in Chicago they were ushered into a bare studio and asked to take their seats. Oprah walked out and explained to the audience that she has always loved teachers and the work they do and she wanted to thank them by giving them the hottest ticket in television, a ticket to her Christmas show. Melvina said snow fell from the ceiling, elves entered the audience and for the next hour gifts were given to all assembled.

Melvina Jones, like so many other teachers across the country, Loves what she does. Regardless of the lack of pay, long hours, and societal apathy or indifference. She's a teacher and everyone reading this has at least one teacher they can point to and say in all honesty that she or he made a difference in their lives. SUNBEAMS allows for today's teachers in the District of Columbia to expand their skills and assist children as only NASA can.



The children learned how to make alka-seltzer rockets. The kids built there very own rockets and were very proud of them. Everyone had the chance to put their rocket into orbit. Some of the launches were not picture perfect, but many got to say 1..2..3..and we have LIFTOFF!!!!

Mary DiJoseph, *LWS Deputy Program Manager*

Official Time at current position:
Seven months

Official Time at NASA GSFC:
14 years

Education: B.S. in Mechanical Engineering from Massachusetts Institute of Technology

Mary DiJoseph was born and raised in Wayne, PA, several miles northwest of the city of Philadelphia. She attended MIT, where she describes her experience as "stressful, but worth it". Additionally she says of her experience at MIT, "I learned how to prioritize and work well under pressure". Mary has been able to use her experience at MIT to excel in her career as an engineer. She worked for NASA through an EOS project as a contractor from General Electric for 5 years. Ultimately she was hired on as a civil servant and has been at NASA GSFC ever since. Although, officially, Mary only has been Deputy Manager of Living With A Star for 7 months, she has been managing the program for 2 years.

What are Mary's thoughts on E/PO?
Her experience in Education and Public Outreach has been an "Engineering Night" she did geared toward middle school students in Washington D.C. She did a demo project based on building rockets illustrating basic physics principles. Mary shares her thoughts about Education and Public Outreach. She says, "I would like to see more consistent outreach in schools, specifically at the middle school and high school level. She believes that we all can do more to make NASA more accessible to everyone.

How do we get more engineers and scientists involved in E/PO programs like STP/LWS Summer Internship?
Mary believes its necessary to provide training to perspective mentors that will provide them with a better idea of the National Science Standards. Ideally, this will give the mentor a better idea of what type of principles they could be implementing in the intern's project.

Mary lives with her husband (software engineer) of 8 years on a farm with their horses in Mt. Airy, MD.

Space 2004 - San Diego, California

Living With a Star and Solar Terrestrial Probes Education and Public Outreach program had a booth in "Education Alley" during Space 2004 in San Diego, CA this past September. Education Alley was a special section of the Space 2004 conference. This section was invitation only and was used to highlight education programs relating to space and space sciences throughout the country. Some of the highlights of the education area were presentations done by the programs to students that were bused in to see the exhibits. Sarah Brown did a presentation of "Understanding the Invisible" using UV beads and getting lots of smiles in return when the children all went outside to see what happens.

2004 HIGHLIGHTS

As we move into the holiday season and prepare to say goodbye to 2004 we thought it would be a good idea to reflect on the activities held and the communities benefited by Sun Earth Connection activities.

April
Sun Earth Day at the
Capitol's Children Museum
Washington, DC
400 in attendance

Roswell Goddard Days
Roswell, NM
4000 in attendance

June
Teamed with University of MD
Upward Bound Math &
Science Regional Center
50 in attendance

July
Star Partners Conference
Anchorage, AK
200 in attendance

Our Star The Sun
Summer Institute
Mayaquez, PR
85 in attendance

Astronomy Institute
Greenbank, WV
13 in attendance

Students United with NASA
Becoming Enthusiastic About Math
and Science
(SUNBEAMS)
25 in attendance

August
SUNBEAMS (con't)

September
Space 2004
San Diego, CA
1000 in attendance

October
Society of Engineering of
Chicanos & Native Americans in
Science (SACNAS)
Austin, TX
2000 in attendance

November
E-Learn
Washington, DC
1000+ in attendance from 60 countries

Don Carson - *STP Program Manager*

Title: STP Program Manager/
Project Manager for MMS
Official time at NASA: 19 years
Education: B.S. in Aerospace
Engineering from University of
MD, CP; M.S. in Engineering
Administration from George
Washington University

Don Carson grew up down the street from Goddard Space Flight Center. He attended Seabrook Elementary School and graduated from Duval High School in Lanham, MD. While he was a student at UMCP, he started his career as a co-op at the Dept. of Agriculture.

Don Carson's E/PO experience:
Spartan Project – exhibited
at conferences, shows and
conventions
• "Get Away Special" this is where colleges, universities and private industry would purchase experiment space on the Spartan spacecraft.
• He also set up a collaboration with a school from Argentina with a local school to be 'pen pals'. The purpose was to use science to support other disciplines and promote a 'cultural exchange'.

Our Star The Sun Summer Institute – he has presented to the teachers at our E/PO's Annual Star Partners Teachers Workshop in Mayaguez about the Solar Terrestrial Probes mission.

In addition Don has also spoken to various schools locally as well as regionally:
Cumberland High School
Bell Multicultural High School
Fort Hill High School
Alexandria Day School

His presentation topics are:

Sun-Earth Connection
Solar Flares
Earth Magnetic Physics
Coronal Mass Ejections
How Solar Storms effect magnetic fields

Don feels it is important to discuss with the students why Sun-Earth science is pertinent to them. In his experience, he learned that you can't make assumptions that students know about NASA, much less Goddard Space Flight Center. Over time Don has 'fine-tuned' his presentation and has learned to focus on what the kids already know in order to build upon their 'prior knowledge'.

Don is married to his wife, Lourdes (who works in the Procurement Office at GSFC). They have 2 children Jay (16) and Nikki (14).

Pizza Hut National Local Celebrity Read Day

November 9, 2004 (Washington D.C.) A group of NASA employees got together and went to visit Anne Beers Elementary School, a second-year NASA Explorer School on Alabama Ave. SE, Washington D.C. This is an annual event that is sponsored by Pizza Hut with the purpose of promoting science literacy in our country's underserved population. Each NASA employee that volunteered was paired up with a classroom to read a book that was science-related.

Andrea Owens, the NASA Explorer Schools Coordinator, reached out to the employees of NASA Goddard Space Flight Center to volunteer some time with "NASA's next generation". I decided to volunteer for the event to take the opportunity to be back in the classroom (I'm a former public school teacher). Most of us met at Bldg 28 and rode together in two separate vans over to Anne Beers ES. When we arrived we were greeted by one of the sixth grade teachers who welcomed us into the school. Then we were each assigned to a class (K-6) and were escorted by the 6th grade members of the Safety Patrol to our respective students.

One of the books read to the children It was read in both English and Spanish.

I was assigned to a Kindergarten class of 13 children. We had a discussion about why reading is important. They shared with me the books that they've read from comic books to science books. I shared with the students my passion for comic books as well as books that taught me about science and culture. Then I read for them "The Air We Breathe", which is a picture book designed to introduce Earth's atmosphere and its importance to life on Earth. It also introduces how the addition of new gases contributes to changing the quality of air we breathe. Additionally, it gives us an understanding of how our atmosphere works. We will begin to understand how our activities may be contributing to some of those changes in air quality.

The students were inquisitive and filled with energy. They became involved in the story and it sparked discussion about some important issues like pollution, the ozone layer and protecting the overall environment. At the end of the reading, their teacher had them draw a picture based on the story. They were very creative and demonstrated through their creations that they were paying attention. When they were done they each handed me their drawings as a gift and gave me a hug of gratitude before they got in line to go to lunch.

I was then escorted back to the meeting room where we were thanked and encouraged to participate in next years event. It was a great way to start the day!!!

2005 UPCOMING EVENTS

January 10 - 14
NASA Pre-Service Workshop
Mayagüez, PR

January 10 - 15
NASA Educators Workshop
Springfield, MA

January 29
NASA Educators Workshop
Washington, D.C.

February 9 - 13
STP/LWS Workshop
Parguera, PR

February 17 - 21
AAAS 2005
Washington, D.C.

April 6 - 10
MTLM Project
Charlestown, NC

May 28 - July 31
STP/LWS Engineering and Space Science Intern Program
GSFC - Greenbelt, MD

July 5 - 10
Star Partners Meeting *(Regional)*
Washington, DC

July 24 - 30
Astronomy Institute
Greenbank, WV

July 9 - 18
STP/LWS Our Star the Sun Summer Institute
University of Puerto Rico
Mayagüez, PR

NASA LWS in the Philippines

He may be retired but Dr. Art Poland is still working to educate people about Living with a Star!

At an invitation from the International Astronomical Union (IAU), Dr. Poland recently taught a 2 week course about the Sun and Space Weather in Manila, The Philippines.

The class included fifteen staff members of the Philippines National Weather Service who wanted to further their education in astronomy and space weather.

"I feel it was really worth while in that I was able to show them how their current work fits into the solar space research and space weather program", said Dr. Poland. He added that he showed them the importance of sunspot measurements for space weather.

The group was already observing sunspots and Dr. Poland was able to teach them how to combine their data with space data available through NASA and the SOHO mission.

While I was there, they began studying the coordination of ground based data in the visible with the extreme ultraviolet space data", said Dr. Poland.

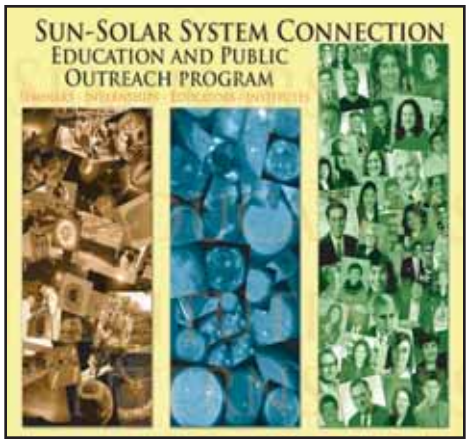
Dr. Poland further explained that one of the less advertised aspects of space weather is the impact of high speed streams on the Earth's magnetosphere. These high speed streams are a significant contributor to the auroras and other space weather phenomena. They result from coronal holes on the Sun, and are more prevalent during solar minimum. The class learned about coronal holes, their impact on Earth, and how to identify them in space and ground based data.

"I expect in the not to distant future this group in the Philippines will be able to contribute to our global understanding of the Sun and Space Weather", said Dr. Poland.

The group also learned how to use a telescope to show school children what the Sun looks like real time. What a great opportunity for LWS Education and Public Outreach (E&PO) to take place on another continent!

SACNAS 2004 - Austin, Texas

The Society for Advancement of Chicanos and Native Americans in Science (SACNAS) held its 2004 National Conference in Austin, Texas from October 21-24. This years theme, Science and Science Policy: Constructing an Inclusive Paradigm," explored the link between current science policy issues and those communities most affected by them. There were approximately 2000 attendees, mostly graduate students, that attended symposia on topics as diverse as Cell Behaviors in Growth and Development to Nanoscience and of course Sun-Earth Connections. The highlight for those of us in attendance was the Graduate Student Oral Presentations. Graduate students that had demonstrated the highest quality of science and research received feedback from the country's leading scientists. Presentations from all disciplines were evaluated and awards given during the event.



SDO Education and Public Outreach

Planet Walk

Working with educators, science centers, community organizations and museums, the SDO E/PO team will develop initiatives to engage the public in scientific discoveries and technological achievements that will improve their understanding of science, math and technology. Specifically, these efforts will elevate current levels of science literacy and improve the public's understanding of the Sun's role and influence on Earth and Space.

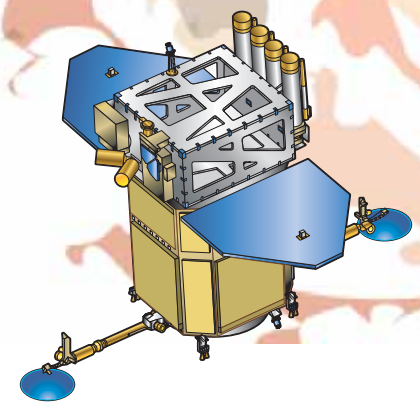
SDO project management is committed to develop a successful and effective E/PO program that is aligned with the goals and objectives outlined by the Education Enterprise in NASA's Education Enterprise Strategy. The SDO E/PO office was established over one year ago and has already created some unique and exciting partnerships in an effort to share with the public, new discoveries and technological achievements in the area of solar science.

The E/PO Lead, Emily Drobnes, has assembled a team of scientists and education specialists, including one from each of the three instrument teams, to develop a comprehensive program meeting the goals and objectives identified by the Education Enterprise. SDO educational initiatives will be an extension and a complement to the overall Sun Earth Connection (SEC) and LWS E/PO efforts.

Specific details of the E/PO programs at both the project level and instrument level will be available early next calendar year upon release of the SDO E/PO Plan. Some of our early initiatives at the project level include:

Dynamic Sun Workshops
Planet Walk
Chesapeake Children's Museum
NASA Explorer Schools

Go to: http://stargazers.gsfc.nasa.gov/epo/newsletters/SDO-article.pdf to read this complete article.



What is Public Outreach?

Public Outreach includes activities, projects, exhibits, and materials aimed at both students and adults, to be used in public and informal educational settings. Opportunities and events for this kind of E/PO would include public lectures; web-based information and resources; animations, video and slide materials; informational handouts; support for television programming (i.e., the "Live from…" series, TV "live shots", etc.); occasions where amateur astronomers can present demonstrations using our activity kits and materials, and tie-ins to national events like Space Day and SED.

Students Having Fun With Science

What does your weight depend on? Students in Ms.Wolfe's , fourth grade class at the Center for Highly Gifted at Pinecrest Elementary School in Silver Spring, MD learned about mass, weight,your weight on other planets, mass in space, weight of the same mass on different bodies.

SEC's Florence Tan was able to convey not only the above concepts through activities she performed to an audience that was more than willing to learn and listen to what she had to say. Through the use of baking flour, modeling clay and a table cloth, all activities that you the reader can do at home with your own children. She was able to get her students to understand the concepts of mass and weight and how their individual mass and weight would be affected if they visited other planets in our solar system.

At the conclusion of the activity the students understood how Superman can fly on Earth and if they're ever watching Jeopardy or completing a cross word and the answer is; A German word meaning thought or thoughts they'll know the answer.

Upcoming Star Partners Opportunities in MA

STAR LIGHT, STAR BRIGHT at Springfield Science Museum on Sunday, January 16, 2005 from 5 to 9 P.M. Your participation can be documented as part of your service hours for Public Outreach for LWS/STP Star Parners Program. The ground work has all been done in partnership with the Science Museum. All you have to do is show up and be ready to talk about the Living with a Star Program and your involvement. Do you have a portfolio you would like to share? Perhaps you have a powerpoint that we could show. We all have pictures and stories. No one will be on the spot to perform. We'll be there to answer questions and learn more about the sky above from planetrium shows to story teller presentations and use of the magnificent rooftop observatory.

The Springfield Museums would like to feature our Living with a Star work related to Ancient Ruins on Thursday, February 24th, 2005. Some of you have mentioned specific hands on activities like carbon dating and the use of simple machines in building ancient temples. An exciting Powerpoint poster of archeoastronomical sites and activities using pyramids tieing in math, engineering and technology will be presented.

Mentor's Wanted

College internships will begin Tuesday, May 31, 2005 – August 5, 2005 10 weeks
High School internships will begin July 5, 2005 – August 26, 2005

2,459,956

What's this number represent? That's the number of hits our stargazers. gsfc.nasa.gov website has received between January 1, 2004, and November 30,2004. Out of the top 100 gsfc websites that ranks stargazers as number 22. These statistics are based on traffic through the Goddard firewall. Not bad for a website still in its freshman year.

The following is a list of STP/LWS Star Partners. As you know these partners address the STP/LWS Education and Public Outreach Missions and Goals to provide outreach to underserved communities.

What is Formal Education?

The E/PO Program for formal education will promote excellence in science, technology, engineering and mathematics (STEM subjects). The program will provide new opportunities for faculty, administrators, and other stakeholders across the country in the sciences and humanities to share ideas, research and assume an active leadership role in motivating pre-college level students, for careers in the STEM fields.

NASA Sun Solar System Partners

Organization / Contact

Springfield College
Mary Allen
Sherann K.N. Jackson
Leishia Boone
Erica Goodyear
Kimberly Podos
Kentisha Gilfoil
Jessica Buccellato
Lori Heckman
Jennifer Hickman
Deirdre Lock
Taylor Scata
Regina Sheehan
Heather Smith

Milton Bradley Elementary School
Cynthia Amato
Stephen Wilshire

Putnam Vocational Tech High School
Arline Clayton
Catherine Avedesian

Gamet Patterson Middle School
Sarah Brown

Michael E. Smith Middle School
Lisa S. Manzi

William H. Faquar Middle School
Stefani Parizer

High School of Science and Technology
Anthony Jon Rivard

Holyoke Magnet Middle School For the Arts
Myriam Skolnick
Lynn Jubinsville
S.u.b. Javier Petrovitch
Eulalia Texidor
Neftali Cedeno
Luz M. Torres

Fort Hill High School
Mary Baker-Fuller

Grace Christian Middle School
Charles Bowers

Dr. William R. Peck Middle School
Noreen Ewick

Croem High School
Iris Hernandez

Lincoln Multicultural Middle School
Desiree Heyfiger

Magnet Middle School for the Arts
Andrea Hickson

Organization / Contact

Bell Multicultural High School
Milagros Lopez
Karl Schumann
Jeffrey Schmitz

Sergio Ramirez de Arrellano Middle School
Migdalia Martell

Terrell Junior High
Delore president

Luiz Munoz Marin High School
Annie Quiros

Arturo Grant Pardo Elementary School
Nydia Ramirez
Zulma Velez

Josefa Velez Bauza High School
Hector Rulan Matos

Ines Maria Mendoza Elementary School
Madeline Torres

Casey Middle School
Lori Valenzuela

Alexandria Country Day School
Margaret Wayne

George Fox Middle School
Steven Barth
Myrtle C. Link

Fort Hill High School
Joseph Brewer

Michael E. Smith Middle School
Kathleen M. Chlanda

High School Of Science And Technology
John Consolini

Mountain Ridge Junior High
Ellen Doane

Kelly School
Helen L. Gibson

Federico Degetau High School
Alice Granell-Irizarry

Bryant Intermediate School
Nathan E. Heiselt
James K. Polk
Erica N. Jackson
Melissa Steele

Hervey Elementary School
Anselm King

Cesar Chavez Elementary School
Jennifer Kubit

Escuela Luis Munoz Marin
Zoraida Medal

Now from Integrated Communications Technology, Inc.

The following are the members of the STP/LWS E/PO ICT team:

Dr. Evelina Félicité-Maurice
STP/LWS Education and Public Outreach Manager

Laura Madachy
E/PO Conference Services Manager

Mitchell Watkins II
E/PO Specialist

Omar Eaton
Informal E/PO Specialist

NASA Sun Solar System Partners

Organization / Contact

Jaime A. Callazo del Rio
Keila B. Morales-Arocho
Marily I. Soto-Martinez

Eugenio Maria De Hostos
Rosa Olivencia

Academia Immaculada Concepcion
Susan M. Olivera-Alonso

Esther Rivera
Noemi Sanchez

Sabana Llana Middle School
Migdalia Varela-Ruiz

The Catholic University Of America
Joan Thompson
Sally Pickert
Darby Piercy
Marylann Schuttloffel
Lauren Guaraldo
Sara Hall
Don Michaels
Sarah Pickert
Darby Piercy

Hillsboro Elementary Middle School
Darlene Abrogast

George Washington Middle School
Maxine Paul

Mount Vernon Community School
Darrell Smith

Tomales Elementary
Kimberly Berger

Esc. Antonio Rodriguez Menendez Elementary
Betsy Castro

Michael Middle School
Beth Craven

Hampshire Regional High School
Tara Kisiel

Dr. Pedro Perea Fajardo High School
Cielo Martin

Colegio San Benito High School
Aixa Rodriguez
Luis Soto
Elvira Vecente
Luz Perez

Van Sickle Middle School
Jose Santos

Homer Street School
Nilda Santos

Bryant Intermediate Elementary
Laurel Steel

Junot Vega Elementary

Organization / Contact

Jose Gaztambide

Lincoln Mms
Marina Dewees

Santa Rosa 3
Estrada c. Sol

Colegio San Antonio
Carmen Gibbs

Romon Frade Leon
Cynthia Gonzalez

University of Puerto Rico, Mayaguez
Dr. Juan gonzalez
Betzaida Ortiz
Maria Schwarz

Oakland Terrace Elementary
Christopher Love

Loaiza Cordero High School
Annie Quiros

Brightwood Elementary School
Misael Ramos

Rafael Balseiro Maceira Middle School
Sonia Rosado

Agawam High School
Julia Santa

Scitech
Robert Staron

W.R. Sullivan Elementary School
Walter Torres

Van Sickle Middle
Lissette Vazquez

Ana Maria Negron Intermedia
Fredeswinda Velez